

INHABITING TECHNOAFFECTIONS



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INHABITING TECHNOAFFECTIONS

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Inhabiting technoaffects

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[Prologue]

Some years ago, around 2017, we began to slowly develop this project. Slowness might seem contradictory in a context of acceleration, hyperconnectivity, and exponential technologies. And still this project calls for a slow, gradual approach precisely to create a space for collective reflection on our relationships with technologies, other beings, and our surroundings, in other words, on the shared space constructed within our inhabited territories. For this reason, this project is called *Inhabiting technoaffections* because we operate from a conviction that our present-day existential crisis is actually rooted in a denial of the fact that what we are, what we think, what we feel, what we do, what we experience, is all part of a network of affections and their effects. In other words, our every act, word, or gesture, however miniscule, has an impact or makes a mark on something or someone: it touches us, transforms us, ourselves, others, and our external reality. We affect and are affected. We are intersected by affections. Failing to recognize this fundamental principle of existence is what puts us the position we find ourselves in today: the most profound social fragmentation and the greatest risk to human civilization due to the climate crisis.

Technologies, then, are not objects, devices, or tools; they are, in fact, relational mechanisms that mediate our thinking, our emotions, our perceptions, our ties to everything that surrounds us. Therefore, technologies are an assemblage of affections and impacts: they affect us and the world, just as we, through our interactions with them, also affect the world.

Attempts are made to disguise and conceal the material and immaterial cost of technology production in narratives of progress, modernity, bright screens, and omnipotent artificial intelligence. However, all our individual actions – every click, every file, every search and its instantaneous results– require a complex production chain that is oftentimes misrepresented and ignored even by the very companies that take part in it.

What cost do our computers have for the bodies that assemble their motherboards? What is the cost of our data centers cooled with water illegitimately taken from a community? What is the cost of the “magic” of generative artificial intelligence for the cultures that will no longer appear in its standardized responses? What is the cost to the planet of rivers poisoned by the substances needed to produce the smartphones we use? What is the cost to a child of the gold extracted with their slave labor?

Technoaffections seek to shed light on these interconnected phenomena because we feel compelled to

challenge the narratives and mechanisms predatory systems rely on to legitimize violence and exploitation of resources. These systems, under the guise of technologies, impede access to more just and dignified worlds and ways of life for us all. The fight for technologies that dignify our existence and allow us to aspire to a future as humanity is an ethical and political undertaking. The road forward –the only one possible– is to assume our shared responsibility and recognize the privileges that allow us to act collectively and politically toward the desired impacts.

Participating in the construction of other possible worlds means getting affectively involved. To that end, we propose retaking the indissociable idea of the body-territory that has emerged from the struggles of women from the millenarian peoples of Abya Yala as the central locus from which these emotions and affections are constructed. We then attempt to reconnect with the meaning of the sacred, the ancestral, collective knowledge, and the biological and cosmic rhythms that sustain life. What would an internet operating to the rhythm of sunflowers be like?

Thus, to imagine, design, and construct other technologies that allow us to gather ourselves, we need to collectively politicize our discomfort, make visible and acknowledge our affections to move toward the places we want to get to, slowly and without violence, destruction, or depredation.

This roadmap -intersected by long, collective dialogs; slow learning; and initiatives that inspire us and bring us closer together with one another and with many other people who are in turn accomplices and co-conspirators- is a gamble on re-existence. It summons us to continue slowly developing these communal technologies that empower our affections, that are conceived from our shared dreams and our struggle to collectively construct the meaning of our shared reality.

Mexico, August 2024



In a world in which knowledge, technological reflection and technology itself have been conceived and constructed within rationalist, western, white, male frameworks, it is urgent to **reconnect with technologies through affections and care** to create other possible futures: futures that are dignified and techno-diverse.

Technoaffections is a project that reconsiders technology from a feminist, decolonial, situated perspective (Tecnoafecciones, 2024). Its objective is to generate “sentipensares” (thinking and feeling) and actions regarding our relationship with technologies through a conceptual framework and the development of content that reflects the perspectives of affected communities. It also includes methodological proposals for workshops and a digital campaign aimed at a broad audience.

The project is intended to give people an opportunity to rethink their affective relationship with technology. In other words, to question the ways of being, thinking, feeling, doing, and living that are mediated technologically, the connections that enable or disable these technologies, and their

immediate and distant impacts. We want to **activate our capacity for collective creation, our possibilities for political articulation**, revive our collective ways of doing together, through reconnection and affection; act on our desire for recognition as a community and as a possibility, our commitment to assuming responsibility as collective action. We want to explicitly state our intent to generate **desired impacts** and our potential to **transform worlds**. Our aspiration to build a dignified and just future for all.

The worldview that has been imposed as universal –the product of a predatory economic, political, and social system– is anchored in violence, extraction, exploitation, depredation, and the accumulation of material wealth at the cost of the very continuance of life on earth. This worldview is based on the absurd idea of limitless consumption and economic growth, in a total contradiction of the finite nature of the planet and the consequent threat to the irreplaceable commons such as water, land, air, rivers, mountains, glaciers, oceans, and biodiversity.

This worldview constructs narratives, produces imageries, institutions, infrastructures, knowledge, work, laws, markets, exchanges, bodies, subjectivities that respond to the phagocytosing needs of the system. Thus, to perpetuate itself, this worldview requires fractures, fundamentally from the rupture of what gives rise to life itself: the profound interconnection between beings. This way of life demands that we disconnect from what we are, from the bonds we can form among ourselves and with what sustains our life in common.

The hegemonic sociotechnical systems, derived from this worldview and developed to perpetuate it, are based on this principle: **the breaking of bonds**, an ontological rupture. In this project, we propose to center our discussion on this fundamental rupture enabled by sociotechnical systems. To that end, we propose the category of **technoaffections**, to describe how technologies are constructed and intersected by a web of *affinities* and *affections*.

We choose to use the term **technoaffections** because, in Spanish, attachment to someone or something (*afección*), the nature of that inclination (*afecto*), the action (*afectar*), and the consequence (*afectación*) come from the same Latin root, *afficiō, afficere*, which in turn comes from *ad* (toward) and *faciō, facere* (act or do). In other words, to affect, from its linguistic root, means **to act on something or someone**.

In common speech, such action tends to have a negative connotation. Here, we want to reclaim the idea that affection is inevitable if we see ourselves in relational terms and should not necessarily be associated with loss or harm if we consider ourselves jointly responsible for such affection. Consequently, it is inevitable to affect and be affected if we are in a social milieu, in an **inhabited environment**. However, we can create a space to decide the type and nature of the affection. **To affect** can be seen as a political action to transform ourselves, to be aware of, and responsible for, our impact on the other and on others. Therefore, the **effects** we

produce may be related to our emotions (what we feel) and affections (our attachments), which are desirable.

When speaking of technoaffectations we want to emphasize these multiple meanings, but rooted in reflection on the design, development, deployment, use, and disposal of digital technologies. We want to anchor our collective proposals on our preferred technologies from a critical, feminist, decolonizing, anti-capitalist, antipatriarchal, anti-ableist perspective. Thus, we seek to emphasize the possibilities technologies create, in the **affective relationship** in which others and the other are involved, and the effects, **the outcomes**, the impacts of such involvement with technologies on others and the environment. In other words, a relationship inevitably marked by the mutual convergencies and transformations derived from those effects. For this purpose, we propose conceiving **technologies as relational devices** that mediate our relationship with the world, which affect us and affect the territories we inhabit. To think that, to channel this **desired outcome**, to take charge of what is within our reach, we must transform the historical, social, cultural, economic, and environmental conditions that have transformed those affections into pains that undermine our life in common.

The fact that a vision of technology as material devices is imposed on our collective consciousness is one of the effects of these narratives that work to alienate us from one

another. The hegemonic digital technologies that emerge from the colonial seedbed of the modern patriarchal and capitalist order sell us connections through a screen. However, the digital connection is built on a **profound breakage of bonds** and has a cost for specific peoples and territories. We are permanently connected through the illusions produced by narratives of the ephemeral, of evasion and immediacy, but more than ever in history we are disconnected from an understanding of what we are, what unites us, what gives our lives meaning. From the privileges of a datafied, algorithmically mediated, and automated life, we struggle to engage in dialog, to place our trust politically in mutual care as our only pathway of **resistance and re-existence** against the relentless onslaught of the systems of death.

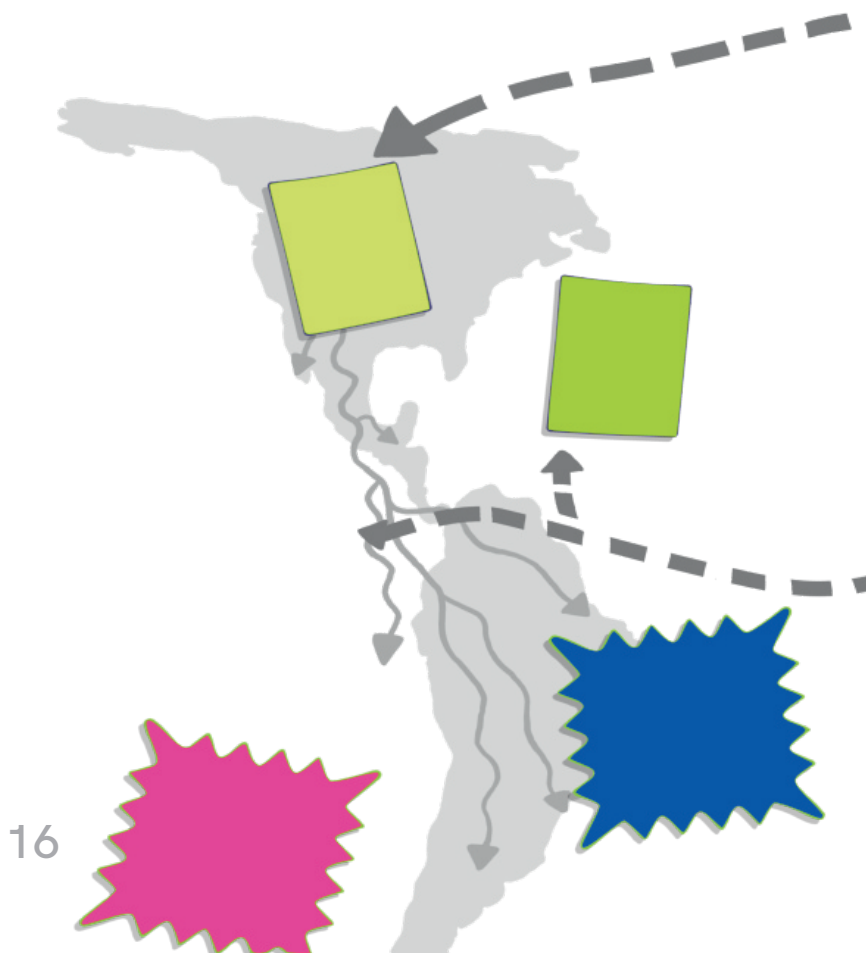
Therefore, when we speak of technology we think of everything that helps us reach out to one another, be what we are, and **build ourselves in community**, in other words ancestral technologies, social technologies, technologies of the ecosphere, technologies anchored to our **bodies-territories**. Our plan to rethink digital technologies comes from the urgency of hearing the rumblings of the **territory-land**, the whisperings of **ancestral** memories, of our grandmothers, and of the lived experience of persons who defend with their lives our wounded bodies-territories so desperately in need of healing. We want to defend the **territories of existence**.

To address this, we propose dislocating the concepts of **connection and disconnection**, which will allow us to imagine, rewrite our stories and reinvent our technologies, and rebuild the bonds between us from a place of shared responsibility and a political commitment to care for one another —deliberately and joyfully— on the foundation of our common desires and dreams. We want to banish the forces that drive us apart and conspire together to inhabit technologies as a chance to dignify human life. To accomplish that, we propose starting by **decolonizing our desires** and our imagination and **politicizing our discomfort** as principles to engage in traditional communal practices such as *tequio*, *milpa*, *minga*, *mutirão*, and *puxirum*, all as decisive means of *worldmaking*, to nourish an earth that cannot be despoiled.

We want to make space for other narratives on ourselves, different from our algorithmically produced profiles; we want to give weight to the physicality of wires, infrastructure, use of water, energy, precarious work, exploitation, the poisoning of bodies and minds associated with technology development. We want to understand our place in the resistance to biopolitical control of our bodies, or corpopolitics, in the automation of existence and in the geopolitics of surveillance and control.

We know that these possible worlds are already being constructed, and have been constructed historically, in the

day-to-day struggles of the persons, communities, and peoples of Abya Yala and other geographies of the majority world (Alam, 2008). We want to listen, learn, raise visibility, and contribute to these other ways of life, to these projects that sustain and remake the world and by simply existing bring us closer to horizons of hope for dignified ways of life and more just and technodiverse futures.



3

[The dimensions of technoaffections]

The technoaffections project proposes an approach to sociotechnical systems from the dimensions envisioned by the processes behind the development of digital technologies, the geopolitics that make digital technologies possible, and the affections and effects that digital technologies encompass.

There are multiple dimensions associated with technoaffections. However, to *inhabit technoaffections*, we decided to examine five dimensions involved in the process of production and consumption of technologies: extractivism, labor, infrastructure, use, and disposal.

Because we are ***seeking a relationship with people and their situated experiences***, we spoke with groups involved in territorial defense, migratory processes on Mexico's southern and northern borders, migrant shelters, people working in technological *maquiladoras*, youth, people who work in spirituality and healing processes, the recovery and recycling of technological devices, technologists and researchers. Below we discuss findings and reflections drawn from these conversations.

3.1

[Extractivism]

To extract means to remove, to take something away from where it was and move it somewhere else. Extractivism as a process seeks to maximize benefit, either corporate or governmental, through the violent capture of common goods and subjectivity, from the logic of despoilment that is imposed as a model for relations between humans and our world. Historically, it has been seen as a process anchored to natural “resources,” and that is one of its dimensions, but we can expand this definition since there are other extractive spheres that we do not normally think of (Ricaurte, 2023).

Extractivism started in the colonial period, providing Europe with the resources needed to launch its global expansion. However, from the perspective of sociologist Anibal Quijano (2000), colonialism is an epistemological-rational process that constructs an idea of superiority based on race. This process promotes the idea that non-white persons are inferior beings that do not even deserve to be called human.

This racial superiority in turn becomes a means of legitimizing domination. Invoking this pretext allows white

people to exploit, kill, and extract “resources” unimpeded, because racial superiority is equated with cultural and moral superiority: “we are better than they.”

Globalization, as a key phase of late-stage capitalism, builds a narrative on the Western-modern worldview that drives extractivism, whose frontiers have now reached planetary scale, making the process increasingly complex, sophisticated, and all-encompassing (Ricaurte, 2023).

What is your mobile phone made of?

More and more, we use technological devices; for example, in 2016, smartphone sales reached 1.500 million worldwide (according to FMI statistics), 5% more than the previous year. Perhaps we've given some thought about where devices end up after their disposal and maybe even how they're produced (beyond labor conditions of workers, mainly from China, India, and other Southeast Asian countries). However, the initial phase of a device's lifecycle tends to be more obscure.

Smartphones manufacturing is one of the most resource-intensive products in the world. Each phone is made up of more than 200 minerals, 80 chemical elements, and over 300 alloys and types of plastic, which necessarily implies extracting these materials, to a great extent, from the Larger

World. This and other technological products are based on the exploitation of commons like lithium, copper, tin, cobalt, nickel, coltan, gold, and silver, which translates into a huge impact. The expansion of the extractivist model and the so-called energy transition led to a lithium boom throughout Latin America.

For every tonne of lithium extracted industrially, around two million litres of water evaporate. The problem is that “they sell us full packages to ‘facilitate’ our use of things; you don’t know what it is made of or how it was made because I’m giving it to you that way. You never find out. You live in your bubble.” (Libertad Díaz Vera, Interview 2020)

Extractive technology

We often hear news about the data extractivism that is inherent to the business model of the large digital platforms. But we know very little about the “other” extractivisms found throughout their chain of production. The assumption behind the production of these technologies, from their very design, is that the world has infinite resources, when in truth we live in a world of finite resources.

Libertad Díaz Vera, companion of Frente Popular en Defensa del Soconusco “20 de junio” (FPDS) exposes the complexities communities face: problems related to water

pollution, impacts on health, and economic injustice. Using the example of the Mina Cristina project, installed between 2012 and 2015, she describes the first things that triggered concern in the community: sudden skin disorders such as rash, white spots, or dryness and the death of fish in the Cacaluta river, which supplies water for all of Acacoyagua municipality.

Members of the community lacked information on the uses of the minerals extracted, and did not even receive a financial benefit from trading in the raw materials. Also, they were forced to sign unfavorable agreements to obtain permits to extract minerals such as ilmenite, rutile, or titanium dioxide. Regarding the causes behind this, she remarks:

It's a matter of economic performance. They convinced them to work their land for 3 dollars per ton of ilmenite, and sold the same ton for 3 to 6 thousand dollars. It's great business because the raw material sells well and labor costs next to nothing (...) But selling popcorn or pork rinds is more profitable and entails less sickness. (Libertad Díaz Vera, Interview 2020)

The testimony of the people interviewed confirms that one of the leading figures in the (neo)extractivist model is the state. Uruguayan Eduardo Gudynas (2012) considers that one of the main figures in this (neo)extractivist model is the state, which "plays a more active role, and achieves greater

legitimacy through the redistribution of some of the profits by means of social policies". Neo-extractivism refers rather than to a specific activity to a type of extraction: all those activities that remove large volumes of natural goods and (almost) without any process are moved far from the area of origin.

Claudia Ramos Guillén, who works on processes in Tabasco, Chiapas, and Mesoamerica, mentions the concrete example of the expansion of palm plantations in Chiapas, placing emphasis on the impacts on land, water, and communities' ways of life:

A war on life has been waged that affects our water and our land. In our communities a logic of despoilment has been imposed that underscores the relationship between the state, business, and organized crime. This has effects of violence, especially on the bodies of women, racialized persons, children and adults (...) There is a systematic and simultaneous violation of our rights to health, proper nutrition, and a healthy environment. (Claudia Ramos Guillén, Interview 2022)

Mining, oil, gas, dams, monocultures (cereal or forestry), agro-industry, intensive livestock or fishing, information, etc. fall into the neo-extractivist category. Mining is the one that can deplete the largest amount of non-renewable resources in the shortest time. These extractive policies do not

consider local communities and ecosystems, causing environmental devastation, deforestation, contamination, violence and land dispossession.

The interviewees agreed that misinformation exacerbates the issue, since people living in the affected communities often lack information on the uses of the minerals extracted or their impacts on health and the environment, nor do they receive an economic benefit from doing business with the raw materials.

We found an excellent example of the effects of misinformation in our conversation with Jorge Campanini, an environmental engineer and technician at the Bolivian Center for Documentation and Information (Spanish acronym CEDIB). Knowledge of the environmental impacts resulting from the alleged “fair energy transition” is limited or almost nonexistent, while communities near Uyuni salt flat face problems such as forced displacement and scarcity of water.

The lithium mining project in Bolivia involves an industrial mobilization that includes highways, construction, transport, fueling stations, encampments, and above all energy. In addition to the impacts mentioned previously, such operations lead to a drop in tourism and growing militarization of the region. The authorities focus only on royalties with little concern for social or environmental problems. Consequently, Jorge stresses the lack of support and the need for access to information:

There is a contradiction between the environmentalist discourse, the developmentalist discourse, and the energy transition movement, imposed on one of the world's most fragile ecosystems: the salt flat wetlands are so fragile that have not even been fully studied yet. In Bolivia we have no information on their ecological and environmental functions; the ecosystem remains a mystery. The [mining] companies are the only ones who know them well; they have a lot of information. (Jorge Campanini, Interview 2023)

In addition to the scant knowledge available on the local ecosystems and potential impacts derived from extraction of minerals, Jorge offers a harsh critique of the corporate and political discourse surrounding the so-called energy transition. In his own words:

The transition has to be independent, just, and balanced, to the extent of your possibilities and the needs and commitments you have to meet. If the developed nations want zero emissions and to achieve that they are prepared to sacrifice territories in the south, that's unjust. The approach needs to be built on consensus, with social justice. (Jorge Campanini, Interview 2023)

Arturo Contreras, a reporter for the independent news site Pie de Página, also mentions the subject of lithium and the discourse of the energy transition, stressing the need for alternatives to prevailing models of extraction and

consumption, and the need to build greater awareness of the environmental impacts of mining. In this context, he raises several questions, among them “How will contracts with foreign companies be written?” and what are the possible risks associated with industrial developments on the Isthmus of Tehuantepec and in other regions?” (Arturo Contreras, Interview 2023)

He also cites the concrete example of the Mine Crons, one of the first and largest Mexican companies to mine lithium, and remarks that the extraction plant could leave communities without water: “We’ll have batteries for cars and computers, but we won’t have water.” In this sense, it is important to question the discourse: “What does energy transition mean and what does it entail? Will we save the environment by driving electric cars? No, we can’t stop there; there are people who think that electrifying everything represents a global solution but we need to reject that idea.” (Arturo Contreras, Interview 2023)

To problematize the energy transition, we need to understand the devastation of natural environments it may entail, and give value to “other ways of relating with one another and with our environment.” But for that, in the words of Claudia Ramos Guillén (Interview 2022), “we need our water, our corn, our knowledge, and our own technology defended by the traditional knowledge of our peoples.”

Minerals are part of our daily lives, without them, life as we know it wouldn't be possible. However, the implications and consequences of exploitative extractive capitalism and its large-scale production are unsustainable. In terms of megaprojects, mining has the most severe impact at an environmental and human level. It simply can be 'sustainable', 'green', or 'socially responsible'.



Extractive models don't feed local economy, they resort to precarious working conditions and cheap labor while the transnational corporations that implement projects fill their pockets (and not always with transparency). [Mining companies] have even found ways to destroy local economies, creating needs that didn't exist before. Carlos Sánchez Martínez, a native of Juchitán de Zaragoza, Oaxaca, and founder of the community radio station Totopo and a defender of territory on the Isthmus of Tehuantepec, observed:

They have dismantled the local economic system, the system of farming to feed our people. We have lost 75,000 acres of land cultivated by local farmers who grew corn, tomatoes, squash, cantaloupe, watermelon, flowers,

and sugarcane. They have destroyed our people's system of food sovereignty, and now we have to rely on commercial strains of corn from other states. The community has succumbed to a consumerist system with 75,000 acres of farmland in the hands of transnational companies. We also lost our security. In 20 years of generating wind power, they have never shared that power for the benefit of the residents of Juchitán. Sometimes we pay four times the cost of power we get from the Federal Electricity Commission. That's why, since 2007, there have been resistance movements protesting high rates on the Isthmus. (Carlos Sánchez Martínez, Interview 2023).

Extractivist models are known for legalizing territorial and patrimonial dispossession wherever they set foot; promoting local community disarticulation; contaminating water, land, and air, affecting people's health: skin and eye diseases, and even severe chronic health conditions. Human rights violations are constant and systematic.

This is already a moment in which no proposal that does not place the sustainability of the reproduction of life at the centre is incompatible with an idea of the 'future'. And the consumer system in which we live does nothing more than externalise liabilities (environmental, human, cultural) while it talks in fine rhetoric about how it will face a civilisational crisis without changing one iota its forms of production,

transport and consumption at the cost of exploitation. The matter is perfectly clear:

There is territorial planning that includes mining as a wholly unnecessary, irresponsible source of economic growth, because there are harmful substances that go directly into the river. We have not confirmed a single group of workers or families that have benefited, aside from food handouts for a few local farmers. Economically it's unsustainable. There isn't a base salary that helps families. (Libertad Díaz Vera, Interview 2020)

The climate discussion owes societies enormous debts by focusing on discussions around what environmental groups call false solutions to climate change (Nansen, 2019). Actions that propose small changes to change essentially nothing.

This is the trend that tech companies are jumping on with their green talk (Kill, 2015) and zero carbon emissions: payment for environmental services (Eslava, 2017), for example, could be summed up as continuing to consume at the current rate while those who have historically accumulated capital pay other people and groups in places far from the centres of power to clean up the waste that they will not stop emitting. In consequence, wherever extractivist projects establish, resistance rises with strength.

Resistance and land defense

When we look at the economy of materials we find a linear system. Raw materials are harvested and extracted, transformed, transported, assembled, transported again, consumed, transported yet again and finally disposed of as waste. And in each of these stages the variable of "people" is not factored into the equations.

In the short term, one of the big problems of mining is waste rock. To get to the place where there is a "profitable concentration" of the metals you want to extract, you have to get rid of what is above. All that rock that we used to see as mountains and "no good" will now be transformed into mountains of waste that will leak heavy metals stored in them into the air, water and soils. These wastes cause acid drainage, a contamination that can last for, without hyperbole, thousands of years. The Iron Mountain mine in California closed in 1963 but will continue to pollute the Sacramento River with acid drainage for another 3,000 years.

This model impacts the lifestyle of many communities and threatens nature. Organizations, collectives, communities, and entire regions articulate their organization and resistance on their land and rise against projects of so-called "progress" and "development". They claim that "to defend this territory is to defend life; to defend the land of

Hacer política a
la velocidad y para
insectos



their ancestors is to protect their culture and the preservation of their communities and people." (Fundación Heinrich Böll, 2017)

However, we live in a world of finite resources, of cycles and not linear systems, with people involved in every tiny aspect of these chains of production. Moreover, in these systems some people are heard more than others, while the web of public policies and economic diplomacy favours corporations over local populations.

Those who participate in the resistance against these megaprojects organize a variety of actions to create awareness of the issues they face and to defend ways of worthy and dignified living. They participate in local and regional gatherings to share knowledge and experience; they carry out impact studies, legal reports, and complaints; they visit areas damaged by mining and expose exploitation sites; they create public statements, direct action, and resources about land defense and raise awareness on social, cultural and environmental impact.

Carlos Sánchez Martínez describes how indigenous communities on the Isthmus of Tehuantepec struggle against appropriation of their land by transnational wind power companies and even the Mexican state. He also explains how the community radio station Totopo has been a crucial tool in strengthening the culture and defending the territory, providing information in Zapotec language and coordinating with farmers' and fishermen's organizations. In his own words:

We have resisted in our cultures against abandoning our language, customs, and traditions. We continue to preserve the local economy through economic management by women and using barter as a form of commerce. (Carlos Sánchez Martínez, Interview 2023)

They also organize against the criminalization and repression exerted by the police and paramilitary and military forces that increasingly responds to the interests of corporate power. Wind power companies have persecuted community defenders with different strategies such as buying local assassins. Member of Radio Totopo have suffered harassment and severe damage to their installations, but even so they have managed to recover and rebuild little by little thanks to various aid programs.

The collective *Reentramados para la vida* is also an exemplary case of defense of territory. Working with

processes in Tabasco, Chiapas, and Mesoamerica, they have centered their focus on the interconnection between bodies, territories, and the impact of development models. In these processes, they raise visibility and recognition of the experiences of women and racialized bodies:

The center of our work in terms of extractivism has been to recognize the role of women and racialized bodies. What happens with those of us who have been historically made invisible even from within our own organizations? It is from there that we are weaving to analyze what is happening. (Claudia Ramos Guillén, Interview 2022)

These processes of defense go beyond the theoretical dimension and place dialog with fellow activists and collective creation at the center, to frame the relevant issues in their own terms and from their experience: “Beyond handing out a manual that explains it all, with concepts, I’m speaking in code of remembering processes of popular education in this region, of the southernmost south, which are closest to us” (Claudia Ramos Guillén, Interview 2022).

Displacement and human mobility

The consequences resulting from the aforementioned issues, and the shortages produced by extractivist logic, invariably include forced displacement of people living in the territories where extractive projects are implemented.

People in migration, in addition to suffering the effects of drought, disease, food crises, breakdown of their economic systems, etc., must confront hostile conditions on their journeys, produced by the same colonial, patriarchal, and capitalist system. To address that, we also engaged in conversations with groups involved in migratory processes on Mexico's southern and northern borders. As our point of departure, we share an idea that was repeated throughout these conversations, about the fallacies embedded official discourse regarding migrants:

There is a poor and reductionist view of the nature of migration, expressed as the belief or artificial invention that borders must be kept secure against whatever kind of threat we allegedly represent. What they accomplish is to make borders increasingly restrictive, forcing people to seek ever more dangerous ways to cross, which creates fertile ground for networks of exploitation and human trafficking. (Judith Cabrera, Interview 2023)

Enrique Vidal Olascoaga, a member of the Fray Matías de Cordova human rights organization in Tapachula, Mexico, explains that the reductionist view of migration is part of a "dehumanizing discourse" targeting people "merely for the act of crossing a border by precarious means, which deprives them of their identity and human condition." He also mentions that militarization of borders has been normalized as part of migration policy: "militarism operates as the right hand of extractivism; they are the two

prerequisites for predatory capitalism.” In this context, people crossing borders “confront forces as powerful as a mining company or a transnational corporation.” (Vidal Olascoaga, 2023)

Judith Cabrera, co-director of the Border Line Crisis Center shelter in Tijuana, explained the challenges migrants face at the northern border, and also emphasized the lack of opportunities, structural violence, and threats they experience in their countries of origin. In addition, they must deal with violence perpetrated by state actors and drug traffickers and restrictions on crossing borders that have grown increasingly draconian since the nineteen-nineties.

Most contemporary migration policies worsen conditions for asylum seekers and exclude the most vulnerable groups. For example, the app CBP One is a digital border that creates new obstacles:

It remains a small, but digital gateway (...) The most vulnerable and precarious groups are the most in need of access and face the most daunting obstacles. There are people who can't read or write; initially, the app was only available in Spanish and English, and later the option for Creole was added. But in Tijuana we receive people from all over the world. All these limitations exclude ever greater numbers of people. (Judith Cabrera, Interview 2023)

In addition to limitations on access, the app also works as an instrument of surveillance, and little or no information is available on what is done with all the data collected. "It worries me to think what they could do with the migrant population, track their location at any time, make them wear a gps device when they cross, on top of the criminalization" (Judith Cabrera, Interview 2023).

For people fleeing from violence, there are many risks associated with information available on certain digital platforms: "we hear things like 'my stalker' or 'my ex-husband' or 'MS-13 found me on Facebook' (...) the threat is to their life, their physical safety" (Alejandra Elizalde, Interview 2023).

And as they surveil migrants, they also monitor those who defend their human rights through different organizations. In our conversation with Juana Cruz Jiménez, a Tojolabal indigenous woman and coordinator of Tzomé Ixuk, a human rights defense organization that helps women in migration and displaced from their territories, she affirmed:

They also keep us under surveillance. We have analyzed all the risks we face for supporting migrants, and not only the government can detain them but criminal gangs can as well (...) In 2020, we received a family that had been held a long time by a cartel. They were forced to work on a ranch, exploited, and prevented from leaving, until they

managed to escape. They were terrified of asking for help at our offices. Sadly, what they told us is that on the ranch there were large numbers of migrants, women and men, held -or rather kidnapped. Sometimes they do business with the police, who detain them and then take them there. They themselves turn people in. That's why I say the government has eyes, but eyes to pluck out (Juana Cruz Jiménez, Interview 2023).

Alejandra Elizalde, of the Colectiva por Movilidades Libres y Elegidas (CoLibres), highlights the importance of considering the needs and challenges migrant women face from a human rights and gender perspective, and the need for collective action to confront restrictive migration policies. Primarily, CoLibres assists women at risk of sexual violence, theft of territory, and structural violence linked to the capitalist and patriarchal system.

For women in migration, access to mobile devices is a fundamental need because they allow them to communicate with their families and acquire crucial information. However, their limited knowledge of digital security exposes them to the aforementioned risks. To remedy this, CoLibres works to strengthen their agency, with an approach based on understanding their needs rather than acting on the basis of external impositions:

All women have agency. Our sisters are fully capable, under adverse conditions, of making decisions. At times, colleagues of other organizations lack such clarity. Not having enough to eat does not strip them of agency. Our app, Sororapp, is designed with that in mind, to strengthen their agency (Alejandra Elizalde, Interview 2023).

CoLibres, in addition to creating an app that offers support for migrants, promotes the creation of organizational spaces to combat problems such as migrant detention and the discourse that validates such actions, when, in fact:

The state has the ethical, moral, and financial capacity to receive 1% of its population. Refugees in Mexico are even less than 1%, and they tell me “they can’t even help us,” and that’s completely true, so the question is what can we do to change the Mexican state? (Alejandra Elizalde, Interview 2023).

Restrictions on migration are extending everywhere, and with them an urgent need to continue to organize and create “narratives that oppose criminalization, that help us build bridges with other struggles (...) We need to detect where the fault lines are and work to exploit them” (Alejandra Elizalde, Interview 2023).



Who's behind technology?

The so-called technology development supply chain is a complex network of intertwined procedures and mechanisms that produce and distribute devices and materials that enable connectivity.

A supply chain commonly consists of three components: supply, manufacture, and distribution. The sourcing phase covers all the required elements for manufacture, such as extracting raw materials. Secondly, these raw materials are transformed into components and assembled to produce the products we use. Lastly, distribution gives us access to these products. Supply chains involve global networks of production, transportation, and storage: no technological product can be produced in a single country.

Additionally, once digital technology devices "come to life", other processes roll in like software development and server maintenance. And then there's a whole universe of "ghost work" in platform economies that we rarely

acknowledge, ranging from content moderation to jobs that fuel the AI industry, like labeling data for machine learning. And there are many, many intermediary groups.

All of this is possible thanks to humans, actual people that work. It seems obvious. What isn't so obvious is that no company guarantees a supply chain under fair labor conditions. Instead, they exploit workers from the majority world (Adam, 2008).

But the industry twists the narrative completely and presents us with advanced and luring technology that hides the ways, the sources, and the people that produce them. So, the more we know about the variety of supply chains involved in technological production and data economy, the better we can identify our capacity for taking action and putting forward fair alternatives.

The depths of technology

People involved in technology labor can be affected in different ways. The extraction of minerals and metals causes chronic respiratory diseases, pneumoconiosis, and lung cancer. The four essential minerals in technology development: coltan, an electric conductive favorite; tin, used to solder circuits; tungsten, which allows mobiles to vibrate;

and gold, used to cover wiring, are so-called 'blood minerals' because they are often mined in conflict zones in the majority world.

People that work in 'maquilas' (factories that are largely duty-free and tariff-free) experience physical trauma in their hands and wrists and are exposed to chemical poisoning and bronchial irritation caused by lead and tin-based solder fumes. 'Maquila' companies usually hire young women (between 15 and 25) to reduce salary costs. Also because they perform tasks with precision, repetitiveness, and great agility. However, after a few years, women workers lose vision and get joint and back pain from working long hours on their feet, often at night and early morning, without rest and even with restrictions to go the bathroom.

In content moderation, the most common affectations are linked to post-traumatic stress, reduced neuronal activity, and loss of social and family ties. In 2020, Facebook agreed to pay \$52 million to US-based content moderators who suffered from post-traumatic stress. But what happens to Filipino workers that perform the same exact labor?

These precarious working conditions exacerbate structural inequities. As long as companies pile up enormous profits, workers can't reach a dignified life. The wealth gap is part of the hegemonic technological development model. Apple's profit margin is known to mount up to at least 64%. In

Apple's factories, there are 94 production lines and approximately 400 steps to assemble an iPhone, including grinding, welding, drilling, and adjusting screws. A facility can produce 500,000 phones per day,

approximately 350 per minute. In Asian supplier factories, some of these activities are carried out illegally by students with 11-hour shifts.



Regarding the salary gap, back in 2014, on average, executives earned USD 16,200 per month, while excavators in the Congo earned between \$10 and \$50 per week. Around 40,000 children work in mines of the Democratic Republic of the Congo and it would take them 700,000 years to earn what Jeff Bezos earns in one day.

In terms of gender, a study by the Project Management Institute (PMI) shows that the gap is increasing. Male project managers outnumber women by a difference of 58%. Additionally, women earn around 20% less than men for the same work.

Resistance and decent work

Because technological production unfolds at a transnational scale and many companies operate overseas, issues regarding the dignity of labor reflect on different dimensions and involve an array of local and global actors. One of the main areas of action led by related movement building and resistance is to enable access to labor rights that guarantee dignified and fair conditions, as well as alternative economic models. Efforts include establishing unions that defend workers and co-op rights as an alternative economic model. As well as initiatives that promote laws that demand companies meet labor commitments. Fundamentally, movement building is a force to reckon with wherever we go.

The Coalition of Former Workers of the National Electronic Industry (CETIEN, 2024) is a collective based in Jalisco, Mexico, and the northern border of the country. In addition to fighting for "dignified and stable work," for years they have denounced the effects of the technology industry on health and the environment. Conversing with women in the coalition, we learned more about the economic and health issues they have experienced for over 30 years working for companies in the electronics industry in Guadalajara. In first place, they note the increasing precarity of their job stability over the years:

New technology means doing more with less, with less human labor; in our case, it meant exploiting women more (...) The companies came with their new ideologies and wages started falling for women, with fewer benefits. Now we are very sad because the minimum wage went up and now those of us who earn more than that are earning the minimum. (María de Lourdes Cantor Barragán, Interview 2023)

On top of low wages and the unfair economic conditions, their health is at risk:

You have to carry hot molds with the circuit boards. You can't even wash your hands; you're in pain from the heat and the repetitive motions. It has affected my joints and now I have varicose veins. I've been prone to asthma and I have respiratory problems from the vapors released at high temperatures, from the chemical used to impregnate the boards so that liquid solder will adhere to them. They release foul-smelling vapors that cause respiratory or allergic reactions in many workers. (Gisela Viridiana Rosas Moreno, Interview 2023)

Companies provide no information on the things their employees handle on a daily basis. They do not explain if they can cause diseases or have long-term effects. In response to complaints, these companies resort to a discourse of defamation of those who defend themselves, and that discourse is replicated by coworkers and people in

many places. Also, the corporations are organized and have solid strategies to silence anyone who speaks out:

Here they have a coalition of businessmen, who meet every month to find new ways to make our lives difficult. If a company has plans to suspend all its employees, they do it at one workplace first to see if the workers push back, to see if the others do the same. That's what happened during the pandemic. They send the vulnerable workers home, and when they don't protest they do the same thing in another, and then in another. (María de Lourdes Cantor Barragán, Interview 2023)

To counteract health hazards, lack of information, and strategies of defamation employed by companies, cetien organizes action to research, promote and defend their human rights through training opportunities that include health care, despite the industry's negligence to guarantee them.

Thus, workers have gained fuller knowledge of the risks of exposure to the materials and substances they handle in factories. As a result of organizational actions they are not as easily deceived. In the words of Gisela Viridiana Rosas Moreno: "We have knowledge and they can't fool us as easily with arguments like 'Oh, it's just old age,' 'it's a common cold,' or 'you are exposed to more toxic substances outside'" (Interview 2023). This organization promotes

coordination with community organizations dedicated to territorial and land defense.

Another relevant process of social organization in the face of this problem is the Argentine Federation of Technology, Innovation and Knowledge Work Cooperatives (FACT[TIC], 2024). It is made up of 28 technological cooperatives across the country working together to strengthen its members and disseminate this vision of work and technology. They broadly name this understanding through fostering bonds, relationships, and mutual help that,



not only addresses organizational and economic aspects but conflict resolution. For FACT[TIC] "cooperatives are democratic companies that are invested in the development of the community in which they live."

In many countries, laws have been passed that allow platform workers to be effectively considered as workers, that is, entitled to compensation, vacations, and other benefits. For example, in Mexico, a legal proposal was made requiring platform companies to become accountable for accidents and/or even mortal incidents regarding their workers. It also addresses legal entities that operate, manage, and/or use computer applications or platforms and requires them to consider the people that work for them as actual employees (Cámara de Diputados, 2023).

These are just a few examples that show how political and economic organization and platform labor regulation are essential for workers to achieve decent labor condition.



Critical perspectives on Internet uses

According to Larkin (2013), “infrastructures are built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space.” In our day-to-day experience with the internet, we seldom think about the infrastructures that make it possible. Infrastructures are not just the material underpinning of the internet. They have a political, epistemological, ethical, cultural, economic and social dimension. Therefore, they have social effects, and have been conceived around a specific worldview.

The physical infrastructures of the internet are comprised of cables and satellites, antennas and web servers. There are also content distribution networks (CDN), database servers, modems, routers, storage devices, extenders, controllers, water pipes, fans, sprinklers, generators. Some of these elements can be found in what are called datacenters, server farms, or, colloquially, “the cloud.” But by now you’ve undoubtedly heard that there is

very little that is immaterial or ethereal about the cloud, and that it is a fairly centralized space.

Data infrastructures also have a complex framing. A data center can have various purposes. Some sections of this framing may be made up of local operators, internet service providers or small data centers. We might find regional operators and mid-sized data centers. There are also international data centers like network access points, national operators and large data centers.

In fact, the backbone of the internet consists of what are called network router trunks, which are the main paths for data between networks of strategically connected computer networks and central routers. They are often composed of multiple fiber optic cables, and most of them are below the sea. Today, the internet travels by air, land, even underwater.

We can also talk about digital infrastructures of standards and protocols by which these physical infrastructures communicate with each other. Above (or within?) this framing of infrastructures lies what are called service infrastructures and applications. There are content managers and other web services, databases, instances, APIs, bots (like web crawlers). This great framing is available to us through devices like computers, tablets, smartphones, watches, refrigerators, ATMs, and much, much more.

With this brief overview, we have seen that there is a layer of infrastructure whose environmental footprint is

larger than what we usually see. Understanding how these infrastructures function, their architecture, their meaning and their impact on territory, their consumption of energy and water, production of waste and social effects, can help us to create and strengthen alternative infrastructure projects.

The extractivist model in infrastructures

Infrastructures are political; they reflect the social imaginaries and matrixes from which they emerge. We often speak of platform capitalism, but we don't even relate it with the aspect of infrastructure. There are global and local forces that encourage our infrastructural dependence on private multinational capital. Most of the capacity to deploy infrastructure, particularly the most crucial components, is not to be found in the public or social sphere. In our region, we have a public infrastructure deficit. As individuals, we have little right of access to these infrastructures.

According to *Data Center Knowledge* the 15 largest data center colocation providers in the world control around half of the market, and the remainder is highly fragmented. This gives the largest ones the power to impose their rules and decisions on the other infrastructures and persons connected to them (Sverdlik, 2021).

The lack of transparency with which these private companies operate means we have no information, for example, on their servers' cooling systems, or their consumption of energy and water. Some of the largest companies boast zero-consumption policies based on the use of renewable energy or recycled water. These practices are necessary. But they do not question the scale of the data storage and processing model, and this has a direct impact on the volume they consume. In 2021, one study calculated that solar panels would generate eight million metric tons of waste in three decades. What would be the desired impact of a server farm owned by a technological multinational and fed by a solar panel farm? Another part of the problem is



that to ensure efficient data processing, the storage hardware must be frequently replaced, increasing the production of technological trash. These models are based on an idea of “infinite” consumption that bears no connection to the finite reality of our planet.

In the same year, other studies estimated that digital technologies were responsible for between 1.4% and 5.9% of global greenhouse gas emissions, more than all airplane emissions combined. Every Google search requires the mobilization of various types of software (web crawling and indexing, algorithms, search suggestions and adwords). Browsing Facebook on a smartphone for 3-4 minutes, or viewing a 45-second high-res video, consumes as much energy as a LED lightbulb that stays on for an hour. Forty percent of the internet’s carbon footprint comes from the design of websites. Finally, the tendency to migrate everything to “cloud services” requires a constant, ubiquitous internet connection that requires hardware and software available for remote private use 24/7.

Extractivism is not just a material phenomenon. In university education, for example, we are witnessing a rapid, silent and devastating process of privatization and dismantling of the university as a public service, also through infrastructures.

Resistances and alternative infrastructures

So have Other-Technologies succeeded in escaping the extractivist model? It would be impossible to do so altogether. But that model is being heavily questioned, and steps are being taken to build the infrastructures we desire, as a community. We found an outstanding example of communal resistance in Cerrillos, a commune in Santiago de Chile, which mobilized to stop construction of a Google data center.

It is important to emphasize that, in the metropolitan area, there are problems of desertification and scarcity, in parallel with mining that appropriates rivers and a growing monoculture-based agroindustry. In our conversation with the social and environmental activist Pamela Ramírez, who took part in the resistance to the Google project, she explained that:

The data center planned to use twice as much water as the local residents! Also, as we reported in our campaign, the 7,190,208,000 liters a year used by the data center would fill 2,130 Olympic-size swimming pools. That was the insulting water footprint of the Google project (Ramírez, 2019).

In 2019, on discovering that the project would consume vast quantities of water in an area previously affected by

drought, residents organized against approval by local and national authorities. That involved learning about the environmental impact, sharing the information among members of the community, and using techniques of activism to raise awareness of the problem. Despite the paucity of official support and some daunting legal challenges, the resistance succeeded in forcing Google to change its planned cooling system for a less invasive one.

The defense, construction and right to infrastructure should be taken as a central concern for our collectives, social organizations and academic spaces. Some communities believe that we should progress toward greater autonomy and self-determination through community-governed models of data and infrastructure. And given the existing restrictions on resources and capacities, we think that there are more options in projects or initiatives developed according to the principles of minimal computing, as mentioned by Alex Gil (2022), or pocket infrastructures, as Offray Luna (2020) proposes: light, free, and distributed.

We also recognize the proposals on community internet networks that have come, for example, out of Mexico, Argentina and Colombia. And the proposal of Wiki Katat (2024), the first virtual social and community mobile operator of cellular telephony and internet services.

We are interested in Other-Technologies like autonomous or community-managed servers like May First

(2024) or Greenhost, which also publish a detailed annual report on the difficulties of attempting to be “sustainable” (Greenhost, no date). And we are excited when those same proposals are linked and sustained by feminisms like MariaLab or Anarchaserver.

Jaime Villarreal, a member of the cooperative May First Movement Technology, remarked:

We have another vision of how to use digital media, the internet, and communication to support social struggles and movements against this tendency. In part, we do it by building our own infrastructure. Naturally, ours is smaller. It does not take up acres of land but fits in the space of a small machine room. (...) Our goal is not only to create a space that is free of extractivist surveillance practices but also, at the same time, we want to cultivate the idea that this is our cooperative, our infrastructure, and we are responsible for it and for its energy consumption. So part of our work is to train people and give them the tools they need to monitor and know their own resource consumption in the cooperative. (Villarreal, 2022)

With all of this, it makes sense to adopt the perspective of the infrastructure of affection, as Thiane Neves (2023) proposes in the Rede Transfeminista de Cuidados Digitais:

[The infrastructure of affection] consists of seeing ourselves as producers of technology, including ancestral technologies taken together and focused on caring for ourselves and our support structure, producing affective materials, not imposing hierarchies on facts and knowledge, not allowing a discourse and a doubt raised by women to be something small or that minimizes their progress and their struggles. If we assume that all infrastructure is political, the infrastructure of affection is a political and methodological choice the fundamental pillars of which are the free exchange of information and knowledge.

It is a working methodology that seeks to form bonds of affection. It takes an interest in listening and the word is sovereign. It incorporates the philosophies of the Open Source movement, Hacktivism, and the perspective of Feminist Technologies.¹

1 Original quote: “Consiste em pensar-nos como produtoras de tecnologias, incluindo as tecnologias ancestrais como um todo e voltadas para o cuidado de si e da sua rede de apoio, preparar materiais afetuosos, em hipótese alguma hierarquizar conhecimentos e saberes, não permitir que uma fala e uma dúvida por parte das mulheres seja algo pequeno ou diminuir seus passos, suas lutas. Se considerarmos que toda infraestrutura é política, a Infraestrutura de Afeto é uma decisão político-metodológica cujos principais pilares são a troca e o conhecimento livre.

É uma metodologia para trabalhos que buscam vínculos afetivos. A escuta é interessada e a fala é soberana. Traz consigo as filosofias do movimento de Software Livre, do Hackativismo e também a perspectiva de Tecnologias Feministas.”



Critical perspectives on Internet uses

It's common to view technology as an indicator of a society's progress, as an engine of history. In *Technology: The Emergence of a Hazardous Concept*, Leo Marx (2010) explains the etymology of the word (from the Greek *techne*, an art or craft, and the suffix *-ology*—a branch of learning), and notes that the concept came into the English language in the 17th century to refer to a field of study, not an object of study. This changed in the 19th century with the Industrial Revolution and the “mechanical arts.” From then on, technologies became anchored in the idea of development.

What place do the technologies we use occupy in society? For many people, technology refers only to digital technology, because the internet has dramatically reshaped how we relate to each other, work, and communicate. But we have increasingly narrowed our reference further, to only a small portion of digital technologies: hegemonic, closed media that instead of democratizing access and knowledge, only make us more dependent, less autonomous. In the way

these technologies have become socialized, people are conceived as “users,” not as transformative agents. Big businesses give us little containers, windows to “participate,” and say, “use it!”.

From technology to the internet, from the internet to the web, from the web to platforms and from platforms to apps, spaces have been narrowing. Why do we “connect”? What spaces are we accessing? We’re social beings and the “networks” know it, they exploit it. Way back in 2017 a Facebook “repentant” revealed that to get us to consume as much of our time and attention on the internet as possible, tech companies realized that they had to “give us a little dopamine hit every once in a while because someone liked or commented on a photo or a post... The inventors, creators — it’s me, it’s Mark [Zuckerberg], it’s Kevin Systrom on Instagram, it’s all of these people — understood this consciously. And we did it anyway.” In other words, they used human psychology to foster dependence on “social” platforms (Castillo, 2017).

Our browsing history is an open book for these platforms, and it runs through the arteries of their infrastructure straight to their data center, directed by opaque algorithms that they refuse to disclose. Having pushed us to accept the premise that “privacy doesn’t exist anymore,” they say we shouldn’t worry “if we’ve got nothing to hide.” And that’s just what we could normalize: if there’s nothing to hide, why do they have to snoop around?

The extractivist model in browsing

With all of this, an all-but inarguable trend emerges: connection is “desirable.” So we are continually being offered more connected devices, spaces, relations. Technologies don’t take no for an answer. But there are people who set their own rules and see things from the idea of opting out of connectivity (Prudencio y Bloom, 2021).

This trend toward hyperconnectivity greatly widens existing gaps. Half the world isn’t connected. Many people still don’t even have electricity. Although access is lacking for much of the world, it’s not limited to just a connection. There are major inequalities that persist even once one is connected to the internet: there are gaps in usage, browsing, appropriation, resignification, the ability to pursue one’s ambitions, that are perhaps greater than the connection itself. More so the underlying relations and powerplays of technology on other way of being, knowing, doing, feeling and living. To inhabit the internet, we need to understand it, know about its power and complexities, but its uses were designed for the accumulation of capital, not self-determination or autonomy.

So if basic services like education, health, and asylum, are mediated by digital technologies as the only option, we’re excluding not just the half of the world’s population with no internet connection but also the vast majority of

others who are unfamiliar with digital media. The exclusion gap widens while capacities for extraction multiply.

Resistance and diverse ways of inhabiting the Internet

There are other ways to use and create technology, beyond those that have been imposed on us. Free and open technologies are an opportunity, they enable us to inhabit them, too, from a critical perspective. These free technologies encourage a shared, community-based and distributed construction of knowledge. They have a know-how code, a political code and an ethical code that allows for other ways of relating to the object, with the code that writes the object, and with the people who use or write the code of that object.

Resisting to exist in digital territory means placing other values, intentions, dreams, hopes and technologies at the center. Other forms of life, of being and knowing. Nadia Cortés and Eugenio Tisselli (2022) speak of technological rewriting, in other words, “rewriting the tacit values of technologies, understand the agency we have and which involves us in a process of incorporation and realization of a technology in our contexts. How do technologies write us, and what place to we occupy in that process?” (p. 24).

Taking a critical step back from technology is desirable and necessary. Questioning both its algorithms and its paths of production is the first step to beginning to transform them. To build future technologies that can care for life in its various layers, we need to reconnect with local, proximate models of consumption, which foster diversity and connection with the producers and listen to life cycles (nature took millions of years to produce minerals and oil), with designs that respond to these premises. Thinking about technologies (these and others) that enable play, shared and relational liberties, shared learning: expansive technologies that open up ties to others, and to otherness. As Jes describes it:

Politicizing discomfort allows us to build social and communal bonds. Putting discomfort in the common, public space for discussion, to discuss among ourselves what we can do to make this work for us in a more dignified manner, is my own way of politicizing things. If certain things upset us all, we should put them up for debate in our collective conversation, in our space for discussion, to generate political [and] social action. My discomfort, placed in the service of political action, should serve to see what we can contribute to that discomfort to counter its negativity, so that it has a desired and desirable impact in the collective sphere. (Ciacci, 2022)

Thinking critically about our internet use implies questioning our habits and our consumption. We are users more than agents of change. The hegemonic platforms like Facebook or WhatsApp exploit vulnerabilities in human psychology that reinforce dependence on their services.

In some cases, younger people are more attuned to these issues, although it does not necessarily lead them to stop using these technologies. For example, Abril Sánchez told us she has a love-hate relationship with technology, “but more love than hate.” To her, [social media] is tool she uses constantly to post content, be entertained, or stay informed. Even so, when we asked if there is anything she would like to change in this relationship, she mentioned “dependency. I would say I’ve tried and failed. I would like to set a limit to go to sleep. If I stay online 5 minutes longer, it extends to 3:00 a.m.” (Abril Sánchez, Interview 2023)

Dependency and sleep disorders are some of the consequences resulting from the exploitation of our vulnerabilities by the leading digital platforms. Despite using her devices more than 8 hours a day, Abril advocates for greater awareness of consumerism: “When new things come out, my friends buy them right away and I ask them why. I want to think I help others resist the urge to acquire more consumer goods just because there’s a new version available.” (Abril Sánchez, Interview 2023)

To try and correct the problems derived from use of technology, another thing Abril considers important is citizen participation. We see such participation in one of the axes of action of the non-profit Vientos Culturales, creators of the news

¿PARA QUÉ
NOS
CONECTAMOS?

¿SABÍAS QUE
1/3 PARTE DEL
MUNDO ESTÁ
DESCONECTADA?



program Vientos TV, produced from Mexico by and for children and adolescents. The program features authentic voices and participation of children living in conditions of “vulnerability, discrimination, or racism due to their gender, mobility, disability, or belonging to Afro-descendant or indigenous communities” (Vientos TV, no date).

Vientos Culturales is an organization working in marginalized areas and rural and indigenous communities in Tuxtla Gutiérrez, the capital of Chiapas, Mexico. In our conversation with Elke Franke, the organization’s director, she explained how youth face a generation gap, suffer from a lack of confidence to speak up in school and in their families, and are exposed to extreme violence including cases of harassment and abuse. Some of the impacts these problems produce are suicidal behavior and lack of resilience. In response, campaigns have also been developed based on documentaries that examine the issue of suicide among

indigenous youth. For the interviewee, the role of technology has an impact that may be positive or negative:

If I had to generalize, I'd say it's mostly positive because it's a window on the world. Especially because they live in complicated settings and geographies, with limited access to information, recreational activities, or opportunities to take part in workshops. As I see it, having devices is a great advantage for them. It's also a means of learning, chatting, socializing, especially in communities where many -for example girls- are denied permission to leave home. They have a means of contacting and getting to know other people, although naturally with the risks that may entail. Disadvantages exposure to human trafficking, bad actors, pornography. It depends what kind of content you access through your mobile device. (Franke, Interview 2023)

For the interviewee, one of the most important things for children and youths is to feel heard and have spaces for cultural expression. In this regard, she observes that "for indigenous people, technology has been a tool of raising visibility and advancing the conversation on matters of dignity and self-esteem." (Franke, Interview 2023)

To elaborate further on the subjects of youth and digital activism in indigenous languages, we spoke with Andrés ta Chikinib, whose work focuses on creation of content with cultural and linguistic relevance for communities that speak

the Tsotsil language in the Chiapas Highlands. Andrés holds a critical view of education in Spanish and access to technology, which has influenced young people's preference for that language. Regarding access and the role of digital platforms, he states:

Access to information and technology tools has not helped to strengthen the language and instead has weakened it. That is because we have failed to find ways to use digital tools to reach young people. In Tsotsil communities I see 5- or 6-year old children watching content in Spanish on cell phones; that won't help them get closer to their language. (Andrés ta Chikinib, Interview 2023)

Andrés is in favor of expanding access for youth, and mentions that, in the communities he has visited, at least one or two members of every family have cell phones, and although internet access is limited, they find ways to go online. "There are companies and private businesses that install antennas in the mountains to broadcast an internet signal. TikTok has become incredibly popular in communities; some users cover their faces to avoid being recognized" (Andrés ta Chikinib, Interview 2023). Taking advantage of these possibilities for connectivity, he focuses on creating content in Tsotsil language, given that:

Access to the virtual world in our communities is a reality. And if we don't find ways to leverage it to strengthen the language, Spanish will end up dominating. That is why I

always say, it's great that there is literature in Tsotsil but terrible that there is so little quality content produced with creativity and ingenuity for digital platforms. (Andrés ta Chikinib, Interview 2023)

How communities are perceived in the media is another thing that concerns him, since he sees the use of the term "indigenous" as something that may reinforce stigmatizing ideas:

When they call you indigenous they want to turn you into a ghost. We all know ghosts exist, but when a ghost appears you don't know if what you're seeing is a ghost. The same thing happens with the term indigenous. It seems like everyone knows who is indigenous until they come face to face with one and realize they know nothing at all. In the social consciousness of people who do not self-identify as indigenous, it would appear that for them to be indigenous is a synonym for inability to create or execute certain projects. (Andrés ta Chikinib, Interview 2023)

Andrés's digital activism seeks to transform social consciousness surrounding original peoples and their languages given that promoting the importance of "preserving" them often causes people to see them as relics. That is problematic since, in his own words: "no culture, to stay alive, should be seen as something static. It shouldn't be seen as a museum piece. There is an internal colonization,

from the inhabitants of original communities themselves. The colonial mindset is deeply rooted in the social consciousness.” (Andrés ta Chikinib, Interview 2023)

For Andrés, real strengthening of the language is achieved by creating content tailored to native speakers, by working in communities that take concrete actions like implementing literacy programs or creating curricular content or study plans in Tsotsil and other languages, without thinking of captions or translation into Spanish.



Critical perspectives on Internet waste

Early in 2023, the United Nations Environmental Programme announced that close to 50 million metric tons of e-waste are generated every year: the weight of 1,400 Eiffel Towers. This figure is expected to double over the next three decades. E-waste is the fastest-growing flow of trash in the world (Deutsche Welle, 2023). Twenty percent of it is properly recycled; the rest ends up in clandestine dumps.

Even though our daily lives are bound up in our close relationship to technological devices, we rarely stop to think about what happens to them when we dispose of them. As global technological consumption increases, the marginalized communities of the majority world suffer the consequences of our insatiable appetite for electronics.

This logic of intensive consumption of devices is not a matter of chance. The prevailing model of technological development requires that we consume more and more, constantly upgrading the devices we use and turning a blind eye to the impact of this practice. To mention just a few

examples: “a single fluorescent light tube can contaminate 16,000 liters of water; a nickel-cadmium battery like those used in cell phones, 50,000 liters of water; and a television, up to 80,000 liters of water” (Flores, 2023).

Mass production, mass consumption, corporate design strategies, and condescending regulations imposed by governments, are all contributing to unprecedented environmental degradation and social injustices.

Extractivist model in waste

Some of the practices companies and governments encourage perpetuate the cycle of extractivism. This includes planned obsolescence (Procuraduría Federal del Consumidor, 2019), anti-repair policies (Crosby & Adams, 2020), greenwashing and the export of e-waste to majority-world territories.

Our devices are designed strategically to last less than they should. Companies deliberately rely on **planned obsolescence**, designing products with a limited useful life to force consumers to perpetually repurchase them, which boosts their profits. This culture of “buy, discard, buy” (Dannoritzer, 2010) promotes mass production and intensive consumption, driving a linear economy that perpetuates waste generation.

The **anti-repair policies** followed by electronics manufacturers block consumers' capacity to repair or update their devices independently. Planned obsolescence and the limited possibility of repair not only create more e-waste but also tighten companies' control over people and their possibilities for appropriating technology.

In response to growing social concern for the environment, some companies have opted for what is called "greenwashing". This means they market their products as environmentally respectful, but the changes are merely superficial. The circular economy, often presented as a solution to this problem, is an attempt to reduce waste by encouraging recycling and product reuse. There are some advances and initiatives that work for improvement in policies on the right to repair. For example, the Circular Economy Coalition for Latin America and the Caribbean (2024) or the new measures taken by the European Parliament to reinforce consumers' right to repair (Feijoo Costa, 2024).

The problem with recycling is that it is not a solution in itself. Recycling is a complex process. It can be very expensive, and even with the most advanced techniques there are many valuable materials that can't be recycled. This approach doesn't attack the root of the problem, because extractive, exploitative production practices remain invisible. A circular economy also requires a political approach centering on de-growth and redistribution.

The majority world and populations living in the most precarious conditions bear the brunt of e-waste disposal. It is a massive business opportunity for a privileged few, and a health risk for the majority. Industrialized nations often export their e-waste to countries where regulations are laxer and labor costs lower, creating “electronics graveyards” in those regions: Abogbloshie, in Ghana, is, along with Chernobyl, one of the most contaminated places on the planet.

Resistances, reparations, and other transformations

It is urgent that we begin to mitigate the adverse effects of technological waste, and this requires a fundamental shift in the dominant paradigm of development. As a society, we have a responsibility to demand that companies and governments adopt the principles of sustainability, environmental justice and social equality in technological development. Technology must be produced in reciprocity with natural and human environments.

Some have suggested that we **assume our responsibility for technological consumption first by reducing it**: not consuming what we don't need, extending the useful life of our devices. Also, reducing energy consumption, minimizing resource extraction and ensuring that production processes

are environmentally respectful can significantly reduce the environmental footprint of technology industries.

Many communities in the Abya Yala territory have initiatives that aim to **subvert the dominant development order through a communal, permacultural vision of technological development.** To radically change technological production, we might think about how to subvert the way in which technology is designed, produced and consumed. For example, localized production reduces the carbon footprint associated with global supply chains and supports local economies. We can also advocate for **transparency in the lifecycle of technologies**, to know where



they're produced, consumed, and discarded. In many parts of the world researchers are working to make these chains visible.

We must also promote a **culture of repair** and demand that **products be made more durable and repairable**, more modular (like Fairphone), so that users can easily replace defective components. Repairing a device produces 70% less CO2 emissions than the purchase of a new one. Some examples of this type of effort are Nodo Tau (2024), Club de Reparadores and Cibercirujas (2024) at Argentina, and Resistencia Programada (2023) in Uruguay. There is also the iFixit community (no date), which offers "repair guides for just about everything" a quick answers forum and a blog with the latest news on device repair, and the British company Minifree which modifies old Lenovo laptops, unlocking both its software and hardware, turning them into more durable computers. Finally, there is the French Commown Cooperative (no date), which considers electronic devices a "common good," and since 2018 has been renting smartphones, computers and headsets. All of its products are easy to repair, which guarantees a long useful life.

We should also encourage **participative, open technological development**. Participative design promotes the involvement of the community and guarantees that its needs and perspectives are considered. Promoting open

source technology fosters collaborative innovation and the exchange of know-how to democratize knowledge and support the emergence of decentralized, community-based technological initiatives.

Spirituality, healing, and social justice

We cannot accept the structures that are given to us passively or indifferently. Technology is a construct that reflects a worldview. The usual means of understanding it is a product of impositions, techno-optimism, and individualization. We are not in resonance with these formats; we believe in collective processes, in their complexities, in learning among peers, and in ways of growing together. The diversity of beings, feelings, thoughts, and deeds is what sustains life.

Acritical acceptance of structural inequities comes from a disconnect between body, mind, and spirit, between us and the other. Technology sells us ephemeral showcases of connection that deepen these disconnects. To regain deeper, more real connections, in this effort to make different what the system offers us, we can learn from those who devote their efforts to defending their communality, their languages, and their spirituality:

Consumerism is imposed on us through schools, as institutions of the state that also promote consumerism. The historical memory of indigenous peoples has been attacked through the government's official schools. Little by little this assault on historical memory has advanced. We have stopped thinking about our spirituality. This land is home to other beings, spirits, elves, plants; there are other beings that are attacked by this voracious capitalism that wants to banish all happiness from the earth. We need to restore good living (buen vivir), wellness, and happiness for everyone. Part of the work we are doing at Radio Totopo is also in defense of our spirituality. I'm not talking about a religion, but rather a spirituality that gives us the strength to walk. (Carlos Sánchez Martínez, Interview 2023)

This spirituality that gives us strength can allow us to move toward healing recovering ancestral practices that are in dialog with Western medicine.

Floralma Pérez González, a member of a Guatemalan indigenous family with a tradition of healers and social leaders, sees her work as a legacy and a commitment to preserve life and help others find balance in a climate of systemic violence. For her, consciousness implies being present and connected to life in all its forms:

Consciousness is being attuned to life in its different manifestations. We have reached a moment of unconsciousness on seeing our water completely polluted. There is a disconnect from what is sacred, vital. Economic interests are devouring our mountains, if we disconnect from the water and the mother earth that gives us sustenance, that supports life, then what won't we do to one another? There is so much violence driven by economic interest that life begins to lose all value; that's why there's so much death (Pérez González, Interview 2023).

Floralma offers a critique of the current disconnect caused by economic interests that leads to the destruction of mother earth and violence, advocating for a return to collective consciousness and respect for nature. She dreams of a world of respect, justice, and memory, where human life and mother earth are valued. She promotes recovery of solidarity and empathy, adhering to the principles and values handed down by her grandparents, to resist and endure in this world.

Asked what they think should happen to resolve these fundamental issues, the interviewees stressed how difficult they find the question. Their shared reflections orient future actions and underscore the need to rethink our entire reality. One of them replied: "A recovery, a return to respect for life, empathy, checking in on how your neighbors are doing.

That's being lost, sharing with others, but it's a way of resisting and perpetuating this change." (Floridalma Pérez González, Interview 2023)

The obfuscation of options and destruction of other ways of life are some of the hardest things to oppose. But as Carlos Sánchez Martínez says, "we may not find solutions for everything, but we can work with boys and girls to steer them toward a path of happiness and spirituality." (Interview 2023)

There is also agreement on the need to identify new discursive models for how we name this reality, and how we position ourselves to extend our struggles. We need to continue promoting organizational spaces, forging narratives against criminalization and militarization, building alliances to address structural issues, listen to one another, see technology as offering tools to fight back against the dominant models, seeking alternatives to those models.

The people we spoke with were united by an urgent need to question the model of consumption and production that drives demand for minerals and other common natural goods. They also reflected on the importance of preserving spirituality and communal wellness in the midst of voracious capitalism and radical individualism. Only then can we construct a perspective on exploitation of "resources" based on consensus and social justice, with respect for local rights.



4

[For an ethics of care and shared responsibility: A call to action]

We believe that acting from an ethics of care and co-responsibility -building from where we are situated- offers us pathways toward dignified modes of existence. Speaking of acts of care does not mean going it alone, it means assuming a shared responsibility. For us, speaking of acts of care means:

Speaking of that which makes our technologies possible, politicizing discomfort, talking about what happens and what stops happening to us, sharing it and discussing it with others, to formulate responses to what we experience, know how we engage when we talk about what interests us and share knowledge freely in a spirit of gratitude. All acts that help us understand our common reality, to reflect on why we need it to live and what we can give back to the commonality are acts of gratitude and care. Close, supportive, and connecting technologies respond somehow to these technologies of care. Campfires are spaces of collective conversation, a vitally important technology for producing meaning. We could begin to look beyond the technologies we consider technologies, in other words to examine other devices and other means of connecting. (Ciacci, 2022)

Here we offer some ideas, but each person, in their community, can explore their own ways of acting from care.



[Extractivism]

What can we do?

✓ Buy fewer devices

Ask ourselves: which ones are indispensable to our life and work? Which are the most environmentally “friendly”?

✓ Reuse equipment

Is there some project in my community that reuses old equipment? Does anyone in my family or group of friends need a technological device I’m getting rid of?

✓ Recycle the materials devices are made of

We should demand that this is considered from the manufacturing phase. There are social projects that recycle devices, but not always for continuing use.

✓ Repair

It's better to replace the parts instead of buying a whole new device.

We can also Reflect, Reject advertising that "invites" us to constantly buy "the latest" technology, and Reclaim legislation and oversight to address these problems.

[Labor]

It is vital that we become more aware of the “invisible” reality of production and consumption of digital technology. From each of our own spaces, we can:

- ✓ **Promote** organization among affected communities in dispossessed territories and technology industry workers.
- ✓ **Share** experiences of resistance and join in formulating common goals.
- ✓ **Build** and participate in spaces for knowledge with a critical perspective on technologies, including all their eco-social dimensions and impacts.
- ✓ **Demand** policies on the production and development of digital technology that prioritize the lives of people and natural environments.

[Infrastructure]

Infrastructures are political. They reflect the social imaginaries and matrixes from which they arise. What can we do?

- ✓ **Become more aware** of the “invisible” reality of digital technology production and consumption.
- ✓ **Participate, encourage and strengthen** the construction and sharing of local and community technologies that suit the needs of the communities themselves.
- ✓ **Support** regulation of the design, production, use and disposal of electronics to achieve technological sovereignty, regional autonomy and full respect for people’s lives and the environment.

[Uses]

Resisting to exist in digital territory means prioritizing other values, intentions, dreams, hopes and technologies. What can we do?

- ✓ **Inhabit technologies** by perceiving our inner time and the times of natural environments.
- ✓ **Act** to alter lifestyles, reduce consumption, promote the right to repair and eradicate planned obsolescence.
- ✓ **Use technologies** that are (a little) healthier and closer by. Remember that Free Software is a great enabler for this.

[Waste]

To mitigate the adverse effects of e-waste, we need to change the dominant paradigm of development.

- ✓ **Assume shared responsibility** for our technological consumption and try to reduce it. For example, we can begin by not consuming what we don't need. Can we do this conversation, research, dance or meeting (or some parts of them) with no digital technology involved?
- ✓ **Promote transparency** in the lifecycle of technologies, to know where they're produced, consumed, and discarded.
- ✓ **Promote participative**, open technological development.
- ✓ **Promote a culture of repair** and demand that products be made more durable and repairable, more modular (like Fairphone), so that users can easily replace defective components.
- ✓ **Demand** that companies and governments adopt principles of sustainability, environmental justice and social equality in technological development.

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The Tecnoafecciones project proposes to reimagine technologies from a feminist, decolonial, and situated perspective, with the aim of generating thought-action around our relationships with and through them. It considers technological geopolitics, the processes associated with technological development, and the affects that are intertwined in our sociotechnically mediated relationships.

